

REMARKS

At the time of the mailing of the first Office Action following the Request for Continued Examination in the present application, claims 1-31 were present in the application.

Of those claims, claims 11-23 and 26 were indicated to be allowable over the prior art.

In the last Office Action the following rejections were made:

1. Claims 1-7, 24-25 and 28-31 were rejected as lacking novelty under §102(b) over HADCOCK et al. (22,235), newly cited;
2. Claims 24, 25 and 28-31 were rejected as lacking novelty under §102(b) over JOHNSTON (3,261,153), newly cited; and
3. Claims 8-10 and 27 were rejected as obvious under §103(a) over HADCOCK et al. in view of GESSEL et al. (4,706,448), previously cited.

Applicants wish to thank Examiner Meredith Petravick for the courteous and productive interview with applicants' undersigned counsel at the Patent and Trademark Office on October 4, 2005.

As discussed during the interview, combines for the harvesting of wheat, soybeans and other small grains typically have a rotating harvester reel which has a plurality of elongate curved pickup tines which move the crop to be harvested into the combine. In view of the rather severe operating environment in which these harvester reel pick up tines perform their function, they are subject to breakage. Once a considerable number of tines have been broken the efficiency of the operation of the harvester reel is impaired. To restore the efficiency the harvester must be stopped and the broken pickup tines replaced which is wasteful of time and effort, and places the combine out of service

during the replacement. Moreover, during tine replacement in the past, a tool has typically been required to completely remove the broken tines from the reel and replace them with new replacement tines.

In the present invention the broken pickup tines may be easily and rapidly repaired without the need for tools or the need to remove the broken tine. This substantially reduces the time and effort necessary for repair and combine downtime, and the repair actually results in a stronger tine assembly than existed with the original tines.

These advantages are accomplished in the present invention by the provision of an elongate curved repair finger which has an elongate curved cavity extending in the direction of the elongation of the finger and which curved cavity receives the broken tine to effect the repair without the need to remove the broken tine from the reel.

Three sets of claims are currently in the application.

Claim 1 and its dependent claims are directed to the repair finger itself.

Now allowed claim 11 and its dependent claims are directed to the combination of a first finger (the one to be repaired) on the support shaft of a harvester reel and a second finger (the repair finger) having a cavity therein which receives at least a portion of the first finger, e.g. the combination that results when the repair finger is placed over the previous finger.

Finally, claim 24 and its dependent claims are directed to a method of repairing a broken harvester reel pickup tine finger.

HADCOCK et al. discloses a thimble C of cast iron having a cavity a to receive the shaped pointed tip of a wooden rake tooth D to protect the rake tooth from splintering or splitting, and the cavity a is curved as seen in FIG. 2. The thimble C is attached to the extreme tip of the rake tooth D by a screw B.

JOHNSTON discloses a rake tooth for an agricultural implement which includes a rake bar 10 to which is connected a yieldable or bendable block 24 into which a tine 13 is mounted. The bendable block is formed of an elastomer such as rubber to absorb the shock which is experienced during operation and thereby extend the life of the tine. The JOHNSTON invention is to further add a tip 40 which is fabricated from steel having springlike characteristics and which is press fit over

the bent but straight end of the tine 13 as seen in FIG. 3. The purpose of the tip 40 is to protect the tine end against breakage, and after the tip 40 has become worn, it can be removed and replaced with another tip.

First addressing method claim 24, neither HADCOCK et al. nor JOHNSTON even begins to disclose, suggest or consider anything with respect to a method of repairing anything nor do they disclose any elements which receive anything that is broken as explicitly set forth in claim 24. Indeed, rather than repairing anything that is broken, the stated purpose of both of those items of prior art is to prevent breaks before they happen. The method of repair which is claimed in claim 24 must be given weight, and when it is, it clearly distinguishes over HADCOCK et al. and JOHNSTON.

Moreover, the disclosed thimble C of HADCOCK et al. and tip 40 of JOHNSTON cannot inherently be used to repair a broken tine as claimed in claim 24. They are incapable of fixing an earlier break because (1) the fixed result would be a tine shorter than the other tines which would therefore be nonfunctional, and (2) there would be nothing to attach thimble C of HADCOCK et al. or tip 40 of JOHNSTON to it if the tooth or tine was broken. As to the latter, HADCOCK et al. states that their cavity a is configured “to receive the properly shaped point of the wooden tooth”. Thus, the very curvature of the cavity a of HADCOCK et al. which has been relied upon to reject the claims is curved that way to receive “the properly shaped point of the wooden tooth”, i.e. only the extreme tip of the tooth D is tapered and virtually all of the remainder of the tooth D is of larger diameter. If the tapered shaped extreme tip portion of the tooth D was broken off, nothing would be left but the larger diameter portion of the tooth which likely could not be inserted into the cavity a to a depth sufficient that the thimble C could be locked to the broken tooth by the screw B because of the very curvature of the cavity a which has been relied upon in the rejection of the claims. As to JOHNSTON, the end portion of the tine 13 also needs to be present to attach the springlike tip 40 to it. If the end portion is broken off and not there, there is nothing left to attach the springlike tip 40 to. Moreover, like HADCOCK et al., if the springlike tip 40 is attached further up the tine 13 because the end is no longer there because it is broken off, the tine will no longer be functional in combination with the remaining unbroken tines because it will be much shorter. And, the tip 40

could not be placed over the bend 33 of the JOHNSTON tine 13 if that remained after the tine is broken because the bore 44 of the tip 40 is cylindrical and not curved to accommodate the bend.

For these reasons, it is respectfully submitted that claim 24 as presented herein and as not further amended is in condition for allowance as it stands, and reconsideration of the rejection of claim 24 in view of the above arguments is requested.

In any event, at the close of the interview it was agreed that if claim 24 was amended to include the limitations set forth in new dependant claim 32 which depends from claim 24, that it would be allowable (assuming the existence of no further prior art). Accordingly, it is believed that new claim 32 is clearly in condition for allowance.

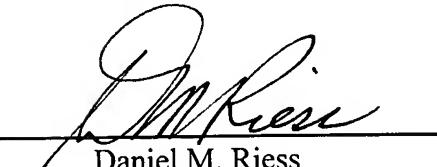
Finally, claim 1 directed to the repair finger itself has been amended herein to set forth that the claimed finger is for receiving “an elongate harvester reel pickup tine finger **of substantial length and which is curved over a substantial portion of that length**”, and that the claimed elongate cavity in the elongate hollow finger **which is being claimed** includes the further specific structural limitations that “said curved, elongate cavity having a size and shape to receive at least a substantial portion of the elongate harvester reel pickup tine finger therein which is curved over a substantial portion of its length”. This specific cavity size and shape of the **claimed cavity** are substantive limitations in the finger which is the subcombination being claimed in claim 1 and must be given weight. Those substantive limitations are clearly not disclosed or suggested by HADCOCK et al. The thimble C of HADCOCK et al. does not receive and is not capable of receiving “a substantial portion of the elongate harvester reel pickup tine finger which is curved over a substantial portion of its length” as now claimed in claim 1. The rake teeth D of HADCOCK et al. are not curved over a substantial portion of their length, and the cavity a of HADCOCK et al is not of a size and shape to receive a substantial portion of the elongate rake teeth D. At best, the cavity a of HADCOCK et al is only capable of receiving the very short extreme tip of the rake teeth D which certainly does not constitute a substantial portion of the teeth D.

For the above reasons it respectfully submitted that all of the remaining claims in the present application, claims 1-32, are in condition for allowance. Accordingly, favorable reconsideration and allowance are requested.

Respectfully submitted,

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